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EXAMINER	
VIVLEMORE, TRACY ANN	
ART UNIT	**PAPER NUMBER**
1635	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/619,253	CROOKE ET AL.	
	Examiner	Art Unit	
	Tracy Vivlemore	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *14,15,24-35 and 37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,16-23 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/03, 11/03, 8/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group IV, claims 3-23 and linking claims 1 and 2, in the reply filed on September 27, 2005 is acknowledged. New claim 36 is directed to this invention.

Applicant traverses the restriction between groups I-IV and V and between groups I-IV and VI by stating the methods of groups V and VI have the identical step to that of the materially different process recited to show distinctness between groups I-IV and V and between groups I-IV and VI. This is not found persuasive because the steps are not identical. While the methods of groups V and VI require a step that can be described as hybridization, these methods must be performed in a cell or a tissue while an *in vitro* hybridization assay does not require cells. Thus while the alternative use and the methods of groups V and VI might share the broad step of "hybridization" an *in vitro* hybridization assay is a materially different process. Applicant further asserts that the search for groups I-IV and V or groups I-IV and VI are identical because of the presence of the same target sequence. This is not persuasive because a search for a compound is not coextensive with a search of a method, which requires further considerations of enablement not required for a compound.

Applicant traverses the restriction between groups I-IV and group VII by stating these are related as combination (the duplex of group VII) and subcombination (the compound of inventions I-IV). This argument is not persuasive because these

inventions are not related in this manner. The duplex of group VII does not contain the compound of inventions I-IV as a component; the compound of groups I-IV is limited to a length of 50 nucleotides and does not have a requirement for an overhang at the terminus and thus are not a subcombination of group VII.

Applicant traverses the restriction between groups I-IV by stating these inventions are all related because the compounds of each of these inventions inhibit expression of human stearoyl-CoA desaturase and states that claims 1 and 2 have in essence also been subject to restriction. Applicant further traverses the requirement for election of a single nucleotide sequence by stating that by necessity each member of a genus will have a structural distinction. Applicant exemplifies this asserted similarity by stating that a sequence targeting particular nucleobases would have substantial sequence identity with oligonucleotides from more than one of groups I-IV. These arguments are not persuasive because the claimed nucleotide sequences are independent and distinct inventions as per MPEP 803.04. While a sequence targeting particular nucleobases may share some sequence identity with one oligonucleotide that is part of one group and with a second oligonucleotide that is part of a second group, this does not provide evidence of structural similarity between the oligonucleotides of the two groups. Additionally, claims 1 and 2 have not been subject to restriction. They have been indicated as linking claims and are examined with the elected invention.

Applicant further states the examiner has precluded the possibility of electing sequences that target nucleotides 70-91, 242-262 and 860-882 merely because they are not listed as preferred embodiments in claim 3 and asserts the Office is attempting

to limit Applicant to preferred embodiments. This argument is not persuasive because the listed nucleotides have been specifically excluded from the invention by Applicant, not by the Office. The Office is not limiting Applicant's invention because the broadest claim is being examined.

Applicant further traverses the requirement to elect a single sequence by stating the most relevant search would be a search of the target and that a search of a single sequence can performed provided the proper search rationale is employed. This is not persuasive because Applicant has not provided the search rationale that would search the 78 sequences recited in claim 13 in one search.

The requirement is still deemed proper and is therefore made FINAL.

Claims 14, 15, 24-33 and new claims 35 and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 27, 2005.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re*

Ockert, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1, 2, 4-10, 13, 19-22 and 36 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1, 2, 4-13 and 21 of copending Application No. 10/484,442. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10, 13, 18-23 and 36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-10, 12 and 13 of copending Application No. 09/918,187. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the co-pending application are a specific embodiment of the generic claims of the instant application. Claim 1 of the '187 application is directed to an oligonucleotide 20 bases in length that comprises at least 8 nucleobases of SEQ ID NO: 30. Claims 4-10, 12 and 13 of the '187 application recite limitations identical to claims 4-10, 21 and 22 of the instant application. The instant claims are directed to compounds that are targeted to and inhibit expression of human stearoyl-CoA desaturase and may be the full

sequence of SEQ ID NO: 30. Thus, the instant claims are directed to a genus of compounds, of which the specific sequence claimed in the '187 application is a species.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 3, 11, 12, 16-18, 20 and 23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4-14, 21, 24 and 25 of copending Application No. 10/484,442. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the co-pending application have the same scope as the claims of the instant application. The claims of the '442 application are directed to compounds that are targeted to and inhibit expression of human stearoyl-CoA desaturase. The claims of the '442 application are not limited to the particular regions recited in claims 3, 16-18 and 20, but targeting these specific regions is an obvious variant of the '442 claims because the '442 application recites these regions as being desirable targets for antisense oligonucleotides (see pages 7-9).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

Claim 12 is directed to the compound of claim 2 that is defined by the function of being able to inhibit expression of stearoyl-CoA desaturase by 90% in a suitable assay.

In order for the written description provision of 35 USC 112, first paragraph to be satisfied, applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed. For example, MPEP 2163 states in part,

> "An adequate written description of a chemical invention also requires a precise definition, such as by structure, formula, chemical name, or physical properties, and not merely a wish or plan for obtaining the chemical invention claimed. See, e.g., *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927, 69 USPQ2d 1886, 1894-95 (Fed. Cir. 2004) (The patent at issue claimed a method of selectively inhibiting PGHS-2 activity by administering a non-steroidal compound that selectively inhibits activity of the PGHS-2 gene product, however the patent did not disclose any compounds that can be used in the claimed methods. While there was a description of assays for screening compounds to identify those that inhibit the expression or activity of the PGHS-2 gene product, there was no disclosure of which peptides, polynucleotides, and small organic molecules selectively inhibit PGHS-2. The court held that "[w]ithout such disclosure, the claimed methods cannot be said to have been described.")."

The specification teaches in table 2 numerous antisense sequences directed to human stearoyl-CoA desaturase that inhibit expression of the gene by amounts spanning the range of 0-93%. The specification does not disclose, nor is it known in the prior art, the structure of an antisense targeted to human stearoyl-CoA desaturase that corresponds to a 90% inhibition of gene expression. The skilled artisan cannot envision

the detailed structure of the antisense sequences encompassed by this claim, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Stenn et al. (WO 00/09754, cited on IDS).

Claim 1 is directed to a compound 8-50 nucleotides in length that is targeted to and hybridizes with a nucleic acid encoding human stearoyl-CoA desaturase. Claim 2 limits the compound of claim 1 to an antisense oligonucleotide. Claim 19 is directed to a

compound similar to claim 1 that hybridize to an 8 nucleobase portion of an active site of human stearoyl-CoA desaturase. Claim 21 is directed to a composition of claim 1.

Stenn et al. discloses a 22-mer oligonucleotide that is fully complementary to SEQ ID NO: 3 (see page 46). Although the oligonucleotide of Stenn et al. is not disclosed as specifically hybridizing to a nucleic acid molecule encoding stearoyl-CoA desaturase, the oligonucleotide of Stenn et al. is the complement of nucleotides within SEQ ID NO: 3 of the instant application and would therefore be expected to "specifically hybridize" to a nucleic acid encoding stearoyl-CoA desaturase as per applicant's definition set forth in the specification on page 11.

Furthermore, since the prior art oligonucleotides meet all the structural limitations of the claims, the prior art oligonucleotides would then be considered to "inhibit expression" of the gene as claimed, absent evidence to the contrary. See, for example, MPEP 2112, which states

> "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 USC 102 and 103, expressed as a 102/103 rejection. 'There is nothing inconsistent in concurrent rejections for obviousness under 35 USC 103 and for anticipation under 35 USC 102' *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 USC 102/103 rejection is appropriate for these types of claims as well as for composition claims."

Thus, Stenn et al. disclose all limitations of and anticipate claims 1, 2, 19 and 21.

Claims 1-12 and 17-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Monia et al. (US 6,077,672).

Claim 1 is directed to a compound 8-50 nucleotides in length that is targeted to and hybridizes with a nucleic acid encoding human stearoyl-CoA desaturase. Claim 2

limits the compound of claim 1 to an antisense oligonucleotide while claim 3 recites that the antisense hybridizes to particular regions of SEQ ID NO: 3. Claims 4-10 recite that the compound of claim 2 contains modified sugar, phosphate linkage or bases or is a chimera. Claims 11 and 12 and 23 recite that the compound of claim 1 inhibits expression of stearoyl-CoA desaturase by 10% or 90% and may be an antisense oligonucleotide. Claim 17 recites the compound of claim 1 hybridizes to a stop codon region while claim 18 recites hybridization to the 3' UTR. Claims 19 and 20 are directed to a compound similar to claims 1 and 3 that hybridize to an 8 nucleobase portion of an active site of human stearoyl-CoA desaturase. Claims 21 and 22 are directed to compositions of claim 1 that may comprise a colloidal dispersion system.

Monia et al. disclose an oligonucleotide 18 bases long designated as SEQ ID NO: 64 (see column 51) that is complementary to positions 1348-1363 of SEQ ID NO: 3. Monia et al. disclose at column 5, line 57 through column 8, line 52 that the sequences of the invention can comprise modified sugars such as 2'-O-methoxyethyl, modified internucleoside linkages such as phosphorothioates and modified bases such as 5-methylcytosine. Monia et al. disclose at column 9, line 31 through column 10, line 9 that the oligonucleotides can be chimera and at column 14 line 66 through column 15, line 18 that the oligonucleotides can be compositions that comprise a colloidal dispersion systems. Although the oligonucleotide of Monia et al. is not disclosed as specifically hybridizing to a nucleic acid molecule encoding stearoyl-CoA desaturase, the oligonucleotide of Monia et al. is the complement of nucleotides within SEQ ID NO: 3 of the instant application and would therefore be expected to "specifically hybridize" to

a nucleic acid encoding stearoyl-CoA desaturase as per applicant's definition set forth in the specification on page 11. Additionally, the oligonucleotide of Monia et al. hybridizes within 50 nucleotides of the stop codon and thus hybridizes with a stop codon region as defined by the instant specification at page 8.

Furthermore, since the prior art oligonucleotides meet all the structural limitations of the claims, the prior art oligonucleotides would then be considered to "inhibit expression" of the gene as claimed, absent evidence to the contrary. See, for example, MPEP 2112, which states

> "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 USC 102 and 103, expressed as a 102/103 rejection. 'There is nothing inconsistent in concurrent rejections for obviousness under 35 USC 103 and for anticipation under 35 USC 102' *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 USC 102/103 rejection is appropriate for these types of claims as well as for composition claims."

Thus, Monia et al. disclose all limitations of and anticipate claims 1-12 and 17-23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stenn et al. as applied to claims 1, 2, 19 and 21 above, and further in view of Taylor et al. (Drug Discovery Today 1999 vol. 4, pages 562-567), Baracchini et al. (cited on IDS) and Bennett et al. (US 5,998,148).

The invention of the above claims is drawn to antisense compounds that target a nucleic acid molecule encoding human stearoyl-CoA desaturase and specifically nucleotides 883-5221 of SEQ ID NO: 3, the coding region, the stop codon region or the 3' UTR, or said compounds comprising internucleoside (i.e. phosphorothioate), sugar (i.e. 2'-O-methoxyethyl), nucleobase (i.e. 5-methylcytosine) or chimeras, or compositions comprising said compounds and pharmaceutically acceptable diluents or colloidal dispersion systems thereof.

Stenn et al. teach the cDNA sequence encoding human stearoyl-CoA desaturase. Stenn et al. further teach antisense compounds and methods that target human stearoyl-CoA desaturase and inhibit its expression. Stenn et al. does not teach antisense sequences 8-50 nucleotides in length comprising internucleoside,

nucleobase, and 2' modifications, chimeras, or compositions comprising said compounds and pharmaceutically acceptable diluents or delivery systems thereof.

Taylor et al. teach that antisense oligonucleotides 7-30 nucleotides long can be synthesized to inhibit the expression of any protein provided the cDNA sequence is known. Taylor *et al.* also indicate that making and using such oligos are available to those of ordinary skill in the art, that it is common practice to chemically modify the such oligonucleotides to prolong their bioactivity, and also teach that with software analysis and high affinity oligos, one needs to screen only 3-6 oligos to find one that inhibits its target 66-95% (p. 565).

Baracchini *et al.* teach that antisense oligonucleotides can be used for research purposes, and also teach that preferred antisense oligonucleotides are modified in their sugar, backbone linkage and nucleobase composition (col. 6). Baracchini teaches that such modifications are desirable in antisense oligos because these modifications have desirable properties such as enhanced cellular uptake, enhanced affinity for nucleic acid targets and increased stability in the presence of nucleases. Baracchini et al provide specific embodiments of such modifications at columns 6-8 and in Example 1. These specific examples taught by Baracchini et al include the presently claimed phosphorothioate linkages, 2'-O-methoxyethyl sugars, 5-methylcytosine and chimeric oligonucleotides. Tables 1-4 show the successful design and use of modified oligonucleotides in cells in culture. Table 1 exemplifies the successful practice of general antisense design taught at columns 8-10. Column 4 teaches various carriers for antisense delivery. Baracchini *et al.* also teaches at column 8 that antisense

oligonucleotides are preferably 8 to 30 nucleotides and that it is more preferable to make antisense oligonucleotides that are 12 to 25 nucleotides in length. At column 9 Baracchini et al. teaches the targeting of an antisense to specific regions of a gene such as the stop codon region and the 3'UTR. Baracchini is considered to comprise a detailed blueprint for how to make and use inhibitory antisense oligos to target any known gene.

The teachings of Bennett *et al.* are considered to parallel those of Baracchini *et al.* Bennett *et al.* teaches general antisense targeting guidelines at columns 3-4. Bennett *et al.* also teaches targeting 5'-untranslated regions, start codons, coding regions, and 3'-untranslated regions of a desired target. Bennett teaches, in column 5, for example, that antisense compounds are commonly used as research reagents and diagnostics. Column 5 indicates that antisense oligonucleotides 8-30 nucleotides in length are particularly preferred. Columns 6-7 teach that preferred antisense oligonucleotides contain modified internucleoside linkages including phosphorothioate linkages, among others. Columns 7-8 teach that preferred antisense oligonucleotides comprise modified sugar moieties including 2'-O-methoxyethyl. Bennett *et al.* also teach one of ordinary skill to modify nucleobases in antisense oligonucleotides, including the teaching of 5-methylcytosine (col. 8-9), and also to use chimeric antisense oligonucleotides (col. 9-10). Bennett *et al.* teach that the above modifications are known in the art to provide beneficial attributes to antisense oligonucleotides such as increased hybridization and nuclease protection, for example. Columns 10-24 teach numerous "carriers" for antisense oligonucleotides. Table 1 teaches the successful targeting of those regions

taught in columns 3-4 with chimeric phosphorothioate oligonucleotides having 2'-MOE (a 2'-O-methoxyethyl modification). Thus, Bennett *et al.* is also considered to comprise a detailed blueprint for how to make and use inhibitory antisense oligos to target any known gene.

It would have been obvious to one of ordinary skill in the art to use the cDNA sequence of Stenn et al. to generate antisense sequences for inhibition of stearoyl-CoA desaturase expression, and further, it would have been obvious to one of ordinary skill in the art to incorporate modifications as taught by Baracchini *et al.* and Bennett *et al.* into said antisense compounds.

One would have been motivated to create such compounds because Stenn et al. expressly teach antisense compounds that target and hybridize to human stearoyl-CoA desaturase (applicants' SEQ ID NO: 3). One would have been motivated to modify said antisense compounds as taught by Baracchini *et al.* and Bennett *et al.,* because both teach that such modifications increase an antisense compound's cellular uptake, target affinity and resistance to degradation.

Finally, one would have a reasonable expectation of success given that Taylor teaches that with software analysis and high affinity oligos, one needs to screen only 3-6 oligos to find one that inhibits its target 66-95%, and since Baracchini *et al.* and Bennett *et al.* both teach making modified antisense compounds targeted to distinct regions of a target gene, the steps of which are routine to one of ordinary skill in the art.

Thus in the absence of evidence to the contrary, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

SEQ ID NO: 30 is free of the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Vivlemore whose telephone number is 571-272-2914. The examiner can normally be reached on Mon-Fri 8:45-5:15.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The central FAX Number is 571-273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Tracy Vivlemore
Examiner
Art Unit 1635

TV
November 29, 2005

J.D. SCHULTZ, Ph.D.
PATENT EXAMINER